Application of click chemistry for PET

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1. Click chemistry is a new approach for the synthesis of drug-like molecules, which can accelerate the drug discovery process. *Sharpless .*

2. In a field where simplicity and speed of reaction are crucial, it is only natural that 'click' chemistry began to emerge as an excellent radiolabelling technique. *Chapter 2*

3. The use of MonoPhos as ligand results in accelerated click reaction, less precursor consumption and a higher radiochemical yield. *Chapter 3*

4. The synthesis of [^{18}F]Galacto-RGD is very complex and time consuming, therefore a better option is synthesising [^{18}F]-RGD-K5 offering a simplified procedure leading to robust clinical study and a short synthesis time. *Chapter 6*

5. The imaging of integrin expression (using [^{18}F]-RGD-K5) provides valuable information to determine the indication of surgical atherosclerotic plaques removal. *Chapter 7*

6. Catalytic copper which is toxic at high micromolar concentrations is forming complexes with PET-labelled peptide. This is why considerable effort is put into developing Cu-free click chemistry. *Chapter 8*

7. If the strain-promoted azide-alkyne cycloaddition methodology could be extended as pretargeting method to antibodies, the use of radionuclides for imaging such targets will not be limited to the longer-lived metallic radioisotopes, and higher resolution images using [^{18}F] can be achieved.

8. The most fundamental and lasting objective of synthesis is not production of new compounds, but production of properties. *George S. Hammond, Norris Award Lecture, 1968*

9. In the PET-lab there is no excuse for not wearing safety glasses and a radiation badge.

10. Being a good scientist is being a good seller because "In science credit goes to the man who convinces the world, not to the man to whom the idea first occurs". *F. Darwin*

11. To increase the productivity in science, brainstorm as much as you can, and only test the most probable ideas. You may miss the possibility of the rare accidental discovery, but your approach is more logical than being dependent on pure luck.

12. There are sadistic scientists who hurry to hunt down errors instead of establishing the truth. *Marie Curie*